

A

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ATGGCTGTTTGTGGATCTCGTATTTCTCACTCTCAGATGGCTTTCGTAACGGGCTCCAGCGCCCATGACCGTGAATCCTGAGTGCA 90
M A V C G S R I S H S Q M A F A N G S S S A H D R A I L S A T 30
ACTCAGCTTACTATCAGCCTTCTCTCGCCGCTCGTCTGCCTAGAAAGAAATTCGAGCCCGATCGTCCAATTTGGTTATGGGGCGTTT 180
T Q T Y Y Q P S P A A S S V P R R E F E P D R P I G Y G A F 60
GGAGTTGTCTGGTCGGTAACGGACCTCGCGATGGCAAGCGGTTGCCCTCAAGAAGATGCCCCAGCTCTCCAGAATCTCATCTCATGT 270
G V V W S V T D P R D G K R V A L K M P H V F Q N L I S C 90
AAAAGGGTTTACGGGAACCTAAGATGCTTTTTTAAATCATGACAAATGTCTCGAGCTCGGACATCTCAACACTCCACACGTA 360
K R V Y R E L K M L F F F N H D N V L R A L D I L Q P P H V 120
GACTTCTTTGAAGAAATATATGTTGTAACGAAGTCTTCAAAGCGACCTACATAAGATCATTGTTTCTCCCAGCCACTCAGCTCAGAT 450
D F F E E I Y V V T T E A G L L Q Q S D L H K I I V S P Q P L S S D 150
CATGTCAAGTCTTCTCTACCAGATTCTCAGAGTCTCAAGTACTGCATTCAGCGGGCATCTACATAGGATATCAAGCCAGGAAAT 540
H V K V F L Y Q I L R G L K Y L H S A G I L H R D I K P G N 180
CTTCTCGTCAACAGTAACGTGTACTTAAGGTGTGTGACTTTGGTCTAGCCCGAGTAGAGGAACCTGATACCAGTAACACATGACCCAG 630
L L V N S N C V L K V C D F G L A R V E E P D T S K H M Q 210
GAGGTCGTGACAGNACTVCCGCTCKTGAGACTTTAGTAGGALACACCTCAGCGGTGGACATGTTGGTCGGTCCGGATGC 720
E V V T Q Y Y R A P E I L V G S K H Y T S A V D M W S V G C 240
ATCTTTGCTGAGCTTCTAGGAGCGGATCCTCTTCCAGGCCAGAGTCCAATCACAACTCAATTTAATCACAGATCTTCTTGGGACG 811
I F A E L L G R R I L F Q A Q S P I T Q L N L A I C T D L L G T 270
CCCTCAAGTAGGATAGAAGTACCGCTGCGAGCTCGGGCTCATCTCTACGCGATCCCAAATCCGCTTATCGCTTATCAGCTTTA 900
P S M E D M K Y A C D G A R A H L L R M P H K P P C L S A L 300
TATGGTCTCTCAAGTCACGCCACACATGAAGCTGTTCACTTACTCAGTAGAATGCTTGTCTTCAATCCGGACAAAAGGATTCATGTATC 990
Y G L S S H A T H E A V H L L S R M L V F N P D K R I S C I 330
GACGCTTGCGCCACCTTACTGACGAGGTCGTAGCTTACATACATGATGTGCAATNPGCTGTCAATACGACGGCGGGCGG 1080
D A L A H P Y L D E G R L R Y H T C M C N C C H N T T A G R 360
CAGTACACCGCGAGTTTGACCTGCTGCTCCTCACAGGTTTACTGCTTGTACGAAGATGACCTCCACACAGTATCACAGTCAAAGAA 1170
Q Y T G E F E P A A P H R F D C L Y E D D L H T V S Q V A K E 390
GCGTACATAAATTCATCCAGACAGACACCGGTAACACCGTACTCTATGCATAATCCCAATCAGCCGCTTCAAAGGTTTGTGA 1260
A L H K F I T D R H Q G N T V P L C I N P Q S A A F K S F A 420
AGTTCGTCCTAGCAGTGCCTCGGAATTACCGCCTCTCCTCAACCGTGGGACTGA 1317
S S S V A S A S E L P P S P Q P W D * 438

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B

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X1 MAFPGSGRSIPG----QLCAGVFSGLIQPPLGQKFCYCPN-----GGGAVPSPLP-----
Dr MAFHGSTR--P----TVCGNLFP---ASELGHKYFCVNTTAG-----TTSTGLGATPNPFGPNAPAGTPRHPAS
Hs MAAYNGGTSAAATGHHHHHHHPLHPLPPHLHHHHHPQHHLHPGSAAAVHPVQOHTSSAAAAAAAAAAAAAMLNPGQQQP YFPSPAPGQA
P1 MAVCGSRIS-----HS-QMAFAN--GSSSAHRAILS-----ATQTYOYQPS-----
Dm MSVMSLVQ-----GG---AAG---GAPQASAILAA-----AAPYYOPPA-----
Ce MILIAIES-----FI-EYLRKIVVVAHVSSNAILAA-----AQFYFPPVQO-----

X1 -----QALSAPOCNGEGRDP-----EPDRPIGYGAFGVVWSVTDPRDGKRVALKKNPNVFNQLVSKRVRELKMLCFF
Dr LGGSAGG-----GAAIPQPHSNPASEVSP-AEME PDRPIGYGAFGVVWSVTDPRDGKRVALKKNPNVFNQLVSKRVRELKMLCFF
Hs PGPAAAAPAQVQAAAAATVKAHHHQHSHHPQOQLDIEPDRPIGYGAFGVVWSVTDPRDGKRVALKKNPNVFNQLVSKRVRELKMLCFF
P1 -----AASSVPRR---EFEPDRPIGYGAFGVVWSVTDPRDGKRVALKKNPNVFNQLVSKRVRELKMLFFF
Dm -----VPO---DVQDPRPIGYGAFGVVWSVTDPRDGKRVALKKNPNVFNQLVSKRVRELKMLCFF
Ce -----DSQDPRPIGYGAFGVVWSVTDPRSGKRVALKKNPNVFNQLVSKRVRELKMLSSF

X1 KHDNVL SLDILOP QIDCFE EIVVITELM QSDLHK I V S P O P L S S D H I K V F L Y O I L R G L K Y L H S A G I L H R D I K P G N L L V N S N C V L K I C D
Dr KHDNVL SLDILOP QIDCFE EIVVITELM QSDLHK I V S P O P L T D H I K V F L Y O I L R G L K Y L H S A G I L H R D I K P G N L L V N S N C V L K I C D
Hs KHDNVL SLDILOP PHIDYFE EIVVITELM QSDLHK I V S P O P L S S D H V K V F L Y O I L R G L K Y L H S A G I L H R D I K P G N L L V N S N C V L K I C D
P1 NHDNVL RALDILOP PHVDFE EIVVITELM QSDLHK I V S P O P L S S D H V K V F L Y O I L R G L K Y L H S A G I L H R D I K P G N L L V N S N C V L K I C D
Dm KHDNVL SLDILOP PHLDYFE EIVVITELM QSDLHK I V S P O H L S A D H I K V F L Y O I L R G L K Y L H S A R I L H R D I K P G N L L V N S N C V L K I C D
Ce RHDNVL SLDILOP ANPSFE EIVVITELM QSDLHK I V S P O A L T P D H V K V F V Y O I L R G L K Y L H A N I L H R D I K P G N L L V N S N C V L K I C D

X1 FGLARVEELDESQHMTEQEVVTOYYRAPEILMGSRHYRSAIDVWSVGCIFAE LLGRIRILFOAOSPITQOQLDITDILLGTPPLTAMRSACEGA
Dr FGLARVEEPDPSRHMTEQEVVTOYYRAPEVLMGCOHYTSSIDVWSVGCIFAE LLGRIRILFOAOSPITQOQLDITDILLGTPPLSAMTSACEGA
Hs FGLARVEELDESQHMTEQEVVTOYYRAPEILMGSRHYRNAIDVWSVGCIFAE LLGRIRILFOAOSPITQOQLDITDILLGTPPLSAMRTACEGA
P1 FGLARVEEPDQSKHMTQEVVTOYYRAPEILVGSKHYSVAIDVWSVGCIFAE LLGRIRILFOAOSPITQOQLDITDILLGTPSMEADMKYACDGA
Dm FGLARVEEPDQAKHMTQEVVTOYYRAPEILMGARHYSVAIDVWSVGCIFAE LLGRIRILFOAOSPITQOQLDITELLGTPPTMEDMRHACEGA
Ce FGLARVWDQRDLNMTQEVVTOYYRAPEILMGARRVYGAIDVWSVGCIFAE LLGRIRILFOAAGPIVQOQLDITDILLGTPSQEAMRYACEGA

X1 RAHLLRGPHPKPSLSVLYMLSG--EATHEAVHLLCRMLLFDPLKRISAKDALAHPLYEEGRLYRHTCMCHCCYSVSSG--RVYTADFEPF
Dr RAHLLRGPHPKPSLSVLYMLSD--GATHEAVHLLCRMLLFDPAKRISGSDALSHPLYDEGRLYRHTCMCHCCYSVSPG--RVYTRDFEPP
Hs RAHLLRGPHPKPSLPVLYTLSS--QATHEAVHLLCRMLLFDPAKRISAKDALAHPLYDEGRLYRHTCMCKCCFSTSTG--RVYTSDFEPV
P1 RAHLLRMPHPKPCLSALYGLSS--HATHEAVHLLSRMLVFNPDKRISCIDALAHPLYDEGRLYRHTCMCNCCHNNTAG--ROYTGEFEP
Dm RTHLLRRAKPPSPSVLYTLSS--HATHEAVHLLQMLVFNPDKRISVTEALAHPLYDEGRLYRHTCMCKCCFTTSGM--ROYTADFEP
Ce KNHVLRAGLRAPDTRQRYLTIASPDKNHEAVDLLQMLLHFDPKRISVTEALAHPLYDEGRLYRHTCMCKCCYTKPNMPSRLFAQDLDP

X1 ATNRFDSDYBKSILT--SVQVQKELVHRFITDOHQGRKRPVLCINPHSAAFKFFIRSTAWHSSKVSKEER--
Dr ADRPFSHNYBOSMH--SVQCKELVHRFITHEHQGRKRPVLCINPQSAAFKFFIRSTAWHSSKVSKEER--
Hs TNPKFDDTFBNKLS--SVQVQKEIHIFILEQKQGNRVPVLCINPQSAAFKSFISSTVAQPSMPPSPLVWE
P1 AHPRFDCLYBDDLH--TVSVOKEALHKFITDRHOGNTVPLCINPQSAAFKSFASSTVASASELPPSPQWD
Dm AGQPFDDLWRKLT--SVQVQKEMHKFIAEQLOTGRVPLCINPQSAAFKSFASSTVAHPSSELPPSPHOWE
Ce HESPFDPKWKDMSRLSMFELREKMYQFVMDRPALYGVALCINPQSAAYKNFASSTVAQASELPPSPOAW-

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